PT01 User Manual

Version: 1
Keep this user manual for future references.

Table of contents

Shipping Contents..... 3

Product Overview..... 4

About PT01 4
Dimensions 4

Preparation for Setup.. 5

Environment Condition.....5
Surface Condition 6
Projector Requirements.....9
PT01 Installation.....10
Connecting PT01 12

PT01 Laser Curtain ... 13

Adjusting PT01.....13

Driver Installation..... 14

Configuration Setting..... 15

Alignment Instructions..... 17

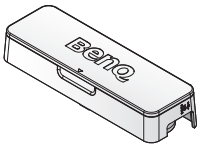
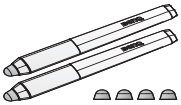
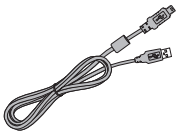
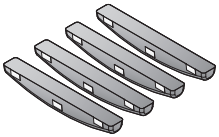
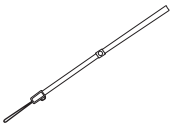
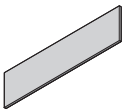
Alignment View 17
Using the Alignment Masks.....18

PointWrite Calibration..... 20

Specifications..... 22

Shipping Contents

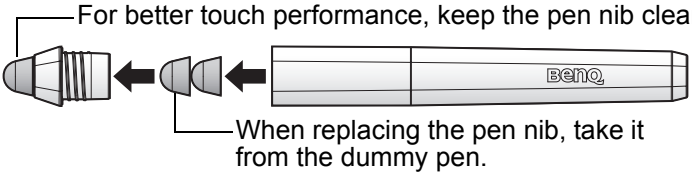
The PointWrite touch module is a touch transmitter for the BenQ PointWrite interactive projector. To use the touch module, please find the standard accessories below and follow this manual.

1	2	3
		
PointWrite Touch Module	Installation CD	Quick manual
4	5	6
		
Dummy pen with pen nibs x 2	Mini USB cable	Alignment masks
7	8	9
		
Wrist strip x 2	Tape x 2	Hex key

1. PointWrite Touch Module PT01
2. Installation CD: CD contains PointWrite touch driver, QWrite software and user manual.
3. Quick Start Guide: Shortcut of how to use the PointWrite touch solution.
4. Dummy pen with pen nibs: 2 extra pen nibs for dummy pen.
5. Mini USB Cable: Connect to supply power to the touch module.
6. Alignment masks: For laser curtain alignment.
7. Wrist strip x 2
8. Tape x 2
9. Hex key: For laser curtain adjustment

About Dummy Pen

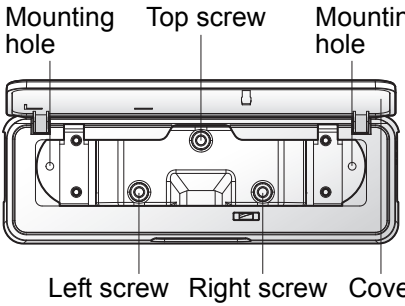
☞ When replacing the pen nib on the dummy pen, take it from the dummy pen.



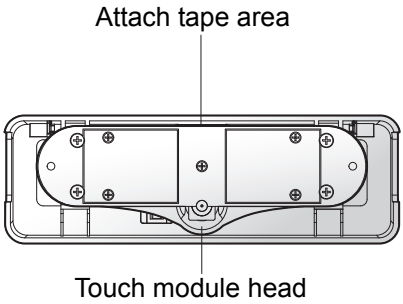
Product Overview

About PT01

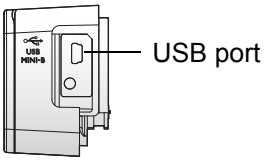
Front View



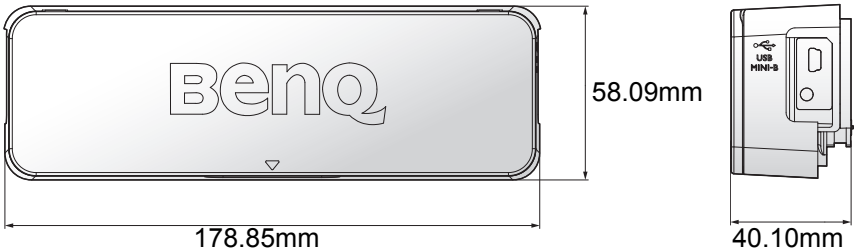
Rear View



Right View



Dimensions



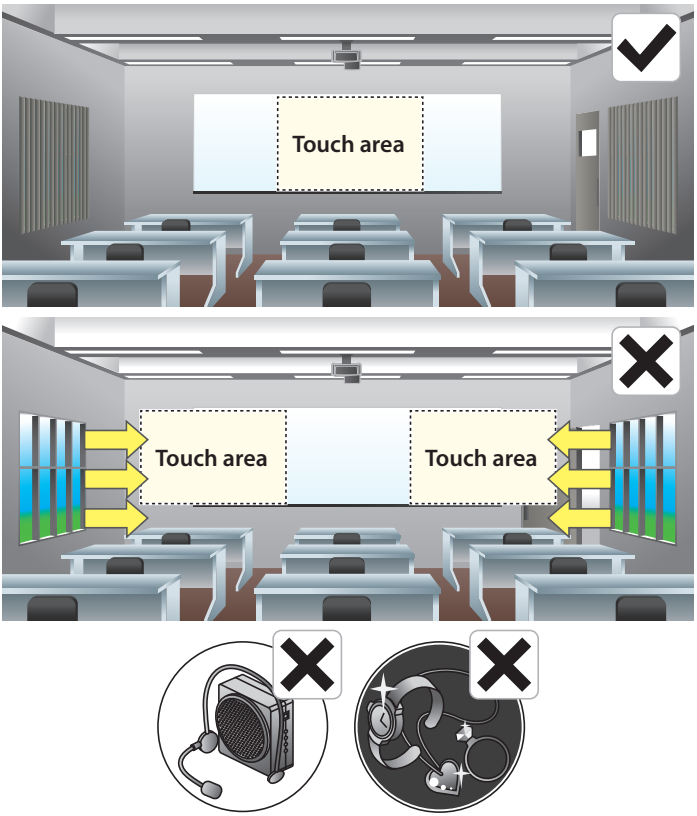
Preparation for Setup

Environment Condition

The PT01 touch module functions with an PointWrite interactive projector for scalable finger touch functionality, transforming any flat surface into a virtual interactive whiteboard.

For optimal finger touch quality, follow these guidelines:

1. Close all window curtains.
2. Select a projection area away from direct sunlight to prevent writing interference.
3. Keep infrared devices, such as: infrared microphones, away from the front side of the screen to prevent interference.
4. Remove accessories, such as: watches or necklaces, with a reflective surface to prevent interference.



Surface Condition

Optimal finger touch quality is dependent on the selected surface condition. You can attach the touch module on a wall surface or existing board. It is important to choose a smooth and flat surface area free of protrusions.

☞ In the event of a projection surface not conducive to finger touch functionality, select the PointWrite pen as the pointing method for the classroom.

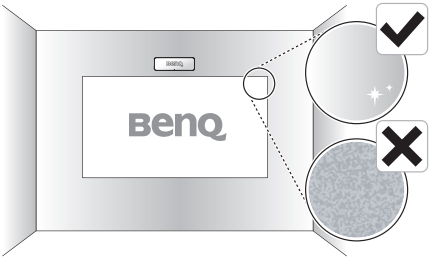
Selecting a Wall Surface

- Select a wall that is straight and flat, without any protruding objects on it.
- Writing directly on the wall with the pen can damage the wall. Test the wall surface by writing on it with the dummy pen before you install the touch module.

Using on the Wall Surface

Consider the following factors when selecting a wall surface to project your image onto:

- Project on a smooth, semi-gloss painted surface to reduce glare from the projector, to achieve optimal touch quality and to reduce wear on the pen nib.

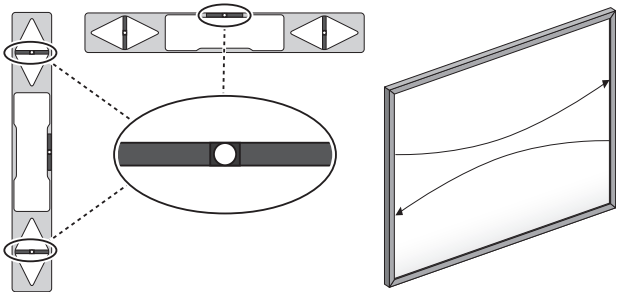


Using on a Dry-erase Board

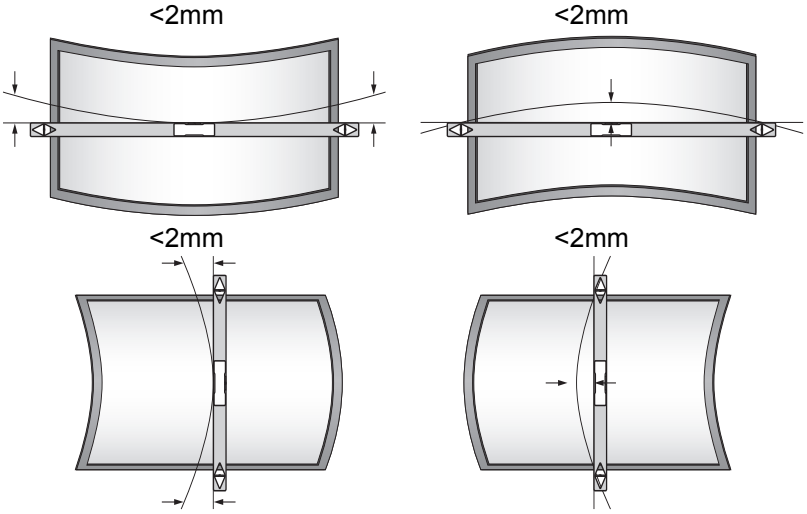
- Attach a dry-erase board to the wall if you're projecting on a textured surface. A dry-erase board is a flat surface that works well with your interactive projector and allows you to write smoothly in digital ink.

Measuring the Flatness of the Surface

1. Place a six-foot carpenter's level horizontally across the projection area (board).
2. Locate the point on the level furthest away from the projection area.
3. Measure the surface flatness on both sides of the projection area.



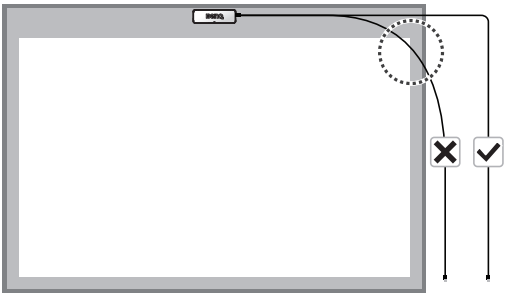
- Overall finger touch performance is influenced by the flatness of the projection surface.
- A flatness variance of 2mm in any direction ensures optimal finger touch performance.



Surface Obstructions

Maintain the projection area clean and free of obstructions. The following are common obstruction examples:

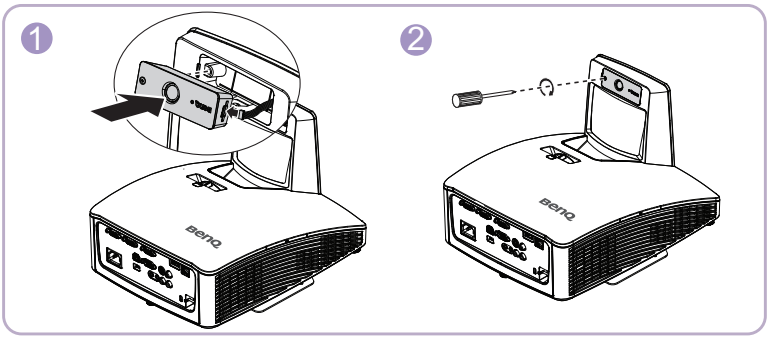
- Cables or wires that hang into the projected image.



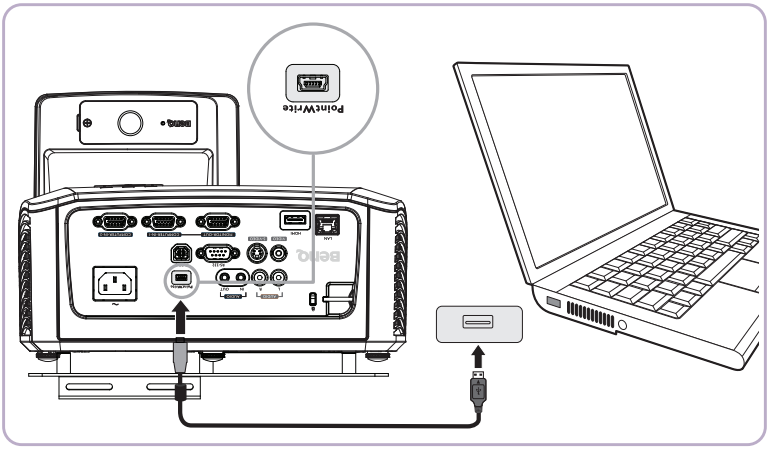
☞ Leave extra space between the cables and the projected image so you can make image adjustments later.

Projector Requirements

The PointWrite touch module is only available for BenQ PointWrite series interactive projector. Make sure the PointWrite camera module is installed properly before you setup the PointWrite touch module.

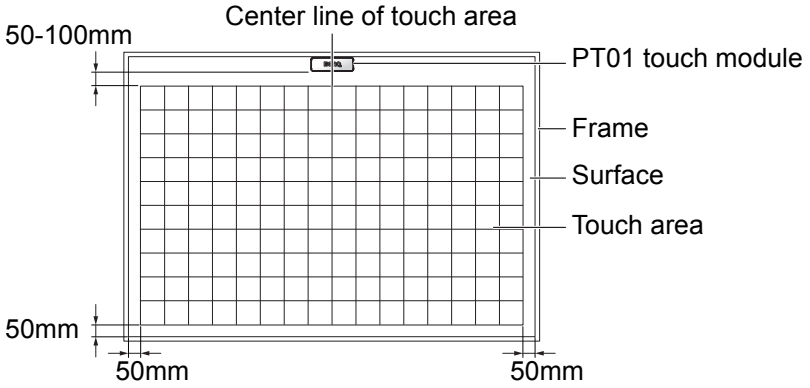


☞ For more information, please refer to the PointWrite camera module User Manual or Quick Guide when installing.



PT01 Installation

Screen Tolerance

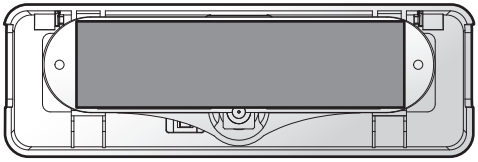


#	Item	Specification
1	Horizontal Position	Center Line of beamed screen.
2	Vertical Position	Ceiling Mounting: Top of the screen with Gap. Table Mounting: Bottom of the screen with Gap.
3	Gap	Min: 50mm, max: 100mm, normal: 70mm
4	Orientation	Head of laser module should be face to touch screen.
5	Touch Area	Min: 65", max: 100" (without external lighting interference)

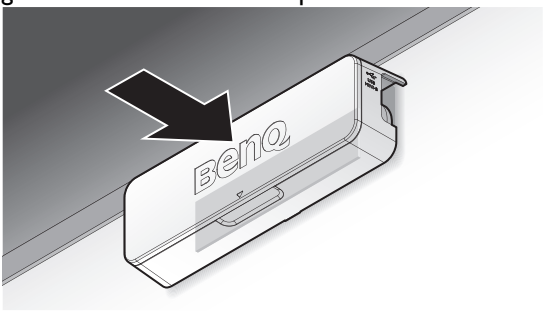
☞ The ambient light or directly sun light is possible to impact the screen size of touch area or cause interference.
In this case, make screen size smaller or turn to pen mode with PointWrite pen for better writing quality.

Mounting PT01

1. Install the adhesive tape on the rear side of the PointWrite touch module.

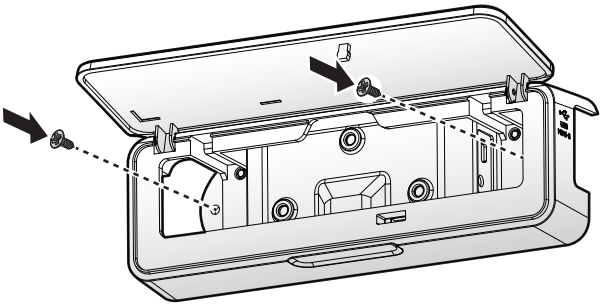


2. Following the instructions above to position the PT01 on the screen.



☞ 3M double tape (thickness: 1mm) is recommended.

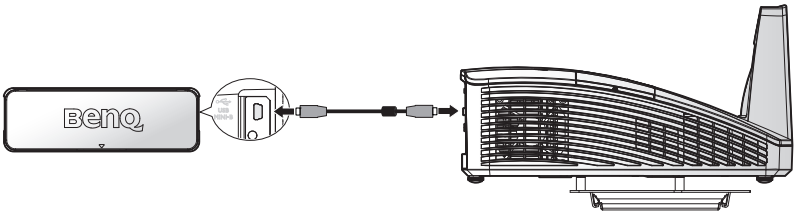
3. Turn over the front cover.
4. Secure the PT01 to the wall with screws.
5. Refer to page 13 for alignment adjustment.



Connecting PT01

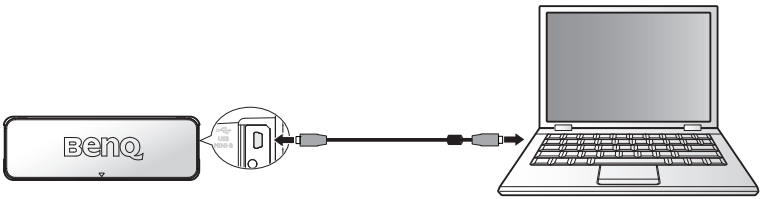
Use the USB cable to connect the PT01 for power supply. There are three ways to connect the PT01.

Connect PT01 to Projector (Recommended)



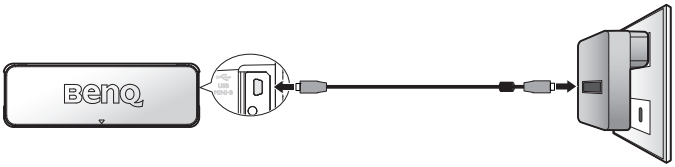
☞ USB type-A power is available for selected projector model.

Connect PT01 to Computer



⚠ USB power may be unstable under the following conditions:
1. disconnecting AC power
2. all USB ports are populated

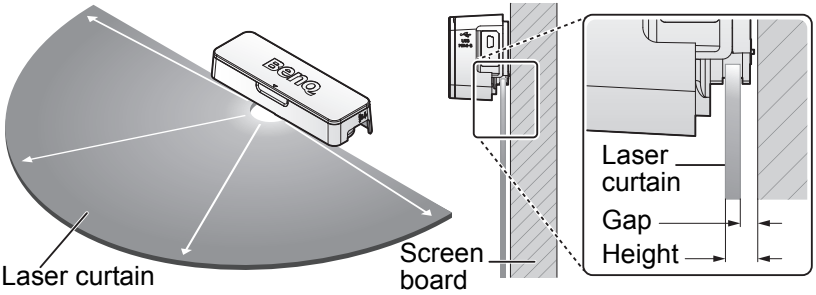
Connect PT01 to 5V USB Adapter



⚠ It is important to disconnect the adapter when the touch function is not used. A continuous transmit will decrease the lamp time of the touch module.

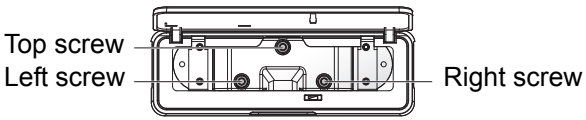
PT01 Laser Curtain

The laser curtain is a perfect plane to cover the screen in max fan angle of 180 degrees. The laser curtain is required to be parallel to the surface with the optimal gap for the effective finger touch performance.



Adjusting PT01

To have the best performance of PT01, adjust the laser curtain using a hex key on the screws.



Pitching control

Adjust top screw, the laser curtain goes up and down as the following image.

Adjust left screw, the left side of laser curtain goes up and down as the following image.

Adjust right screw, the right side of laser curtain goes up and down as the following image.

Driver Installation

Use the PointWrite driver in the PT01 CD to enable the finger touch function.

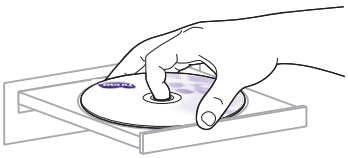
The CD in the PointWrite pen kit does not contain the finger touch function.

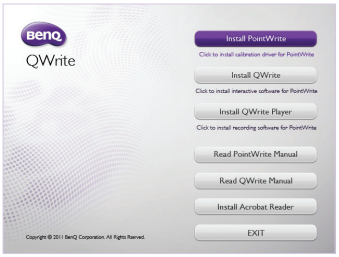
PointWrite Pen kit

☑ Pen Mode
☐ Finger Mode

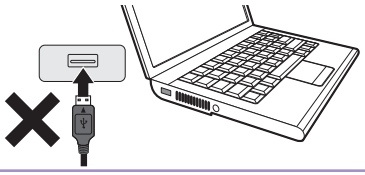
PT01 touch module kit

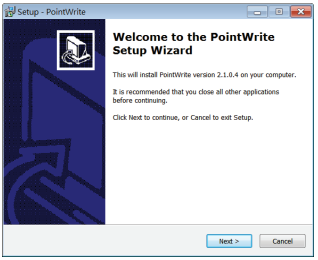
☑ Pen Mode
☑ Finger Mode

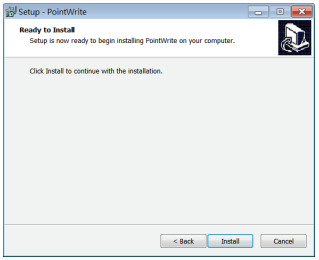


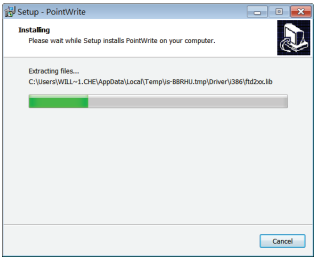


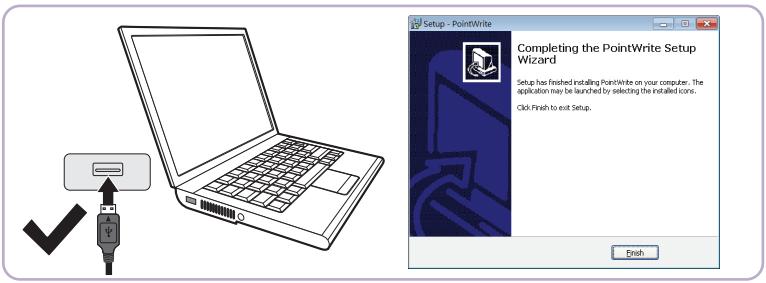
Disconnect the USB cable from PointWrite camera module when installing.




Setup - PointWrite
Welcome to the PointWrite Setup Wizard
This will install PointWrite version 2.1.0.4 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel


Setup - PointWrite
Ready to Install
Setup is now ready to begin installing PointWrite on your computer.
Click Install to continue with the installation.
< Back
Install
Cancel

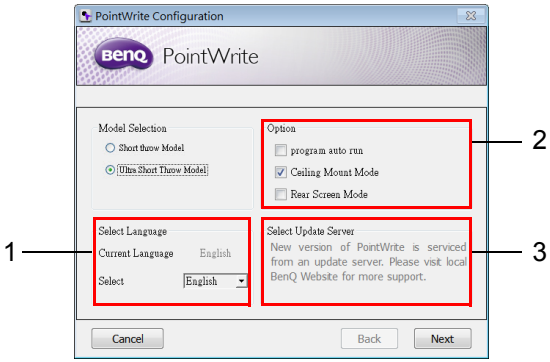



Setup - PointWrite
Completing the PointWrite Setup Wizard
Setup has finished installing PointWrite on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Finish

Configuration Setting

To use the PointWrite, the proper setting of the PointWrite configuration is needed. The Configuration setting window will help you to set up PointWrite correctly.

☞ Select Pen Mode during the setting process.



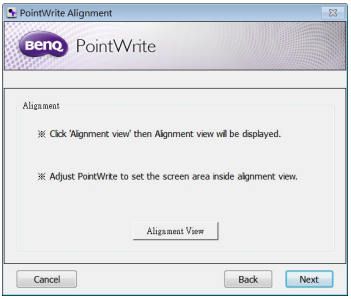
1. **PointWrite Language**: The default language is the same as the language for your operating system. If you want to change the language, click on

and then language list will display. **After selecting your preferred language, quit the PointWrite and start the PointWrite again**.
2. **PointWrite Option**:
   - **Start Program Registration**: Click this item if you want the PointWrite to run automatically when Windows starts.
   - **Ceiling Mount Mode**: Click this item if you mount the projector on the ceiling. When the projector is placed on the table, do not click this item.
   - **Rear Screen Mode**: If the projector is installed on the rear screen system, click this item.
3. **Select Update Server**: Please visit local BenQ Website for more support.

Alignment Instructions

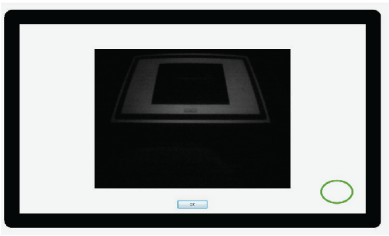
Alignment View

1. In PointWrite Configuration, press **Next**.
2. In PointWrite Alignment, press **Alignment View** to enter the camera view (refer to page 18).

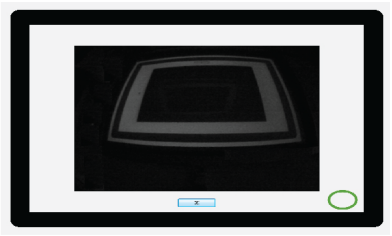


3. Check the position of the pattern image.

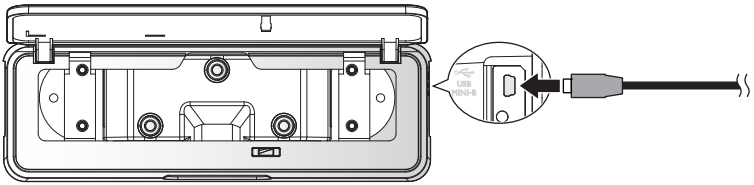
UST-Mirrot type projector



ST-Short throw projector



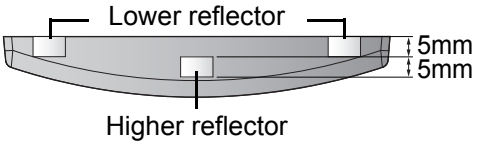
4. Connect the USB cable for PT01 and go to "Using the Alignment Masks" on page 18 for alignment instructions.



Using the Alignment Masks

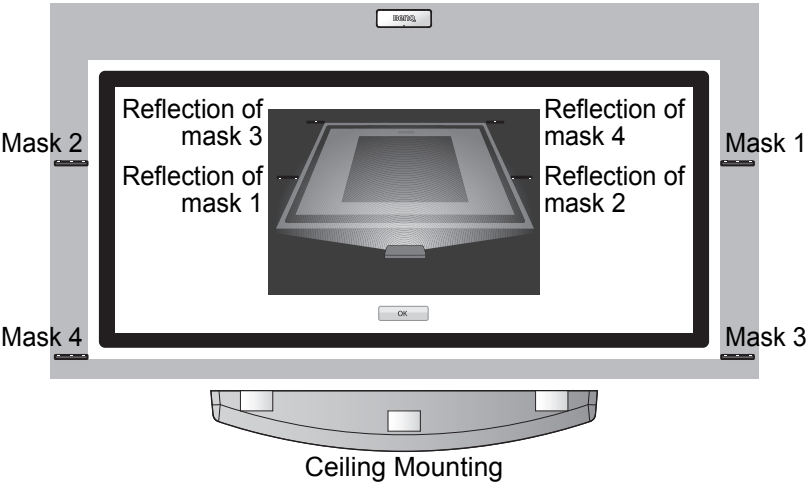
The alignment masks help you to find the optimal height of the laser curtain and optimal touch performance.

Shape of Alignment Mark



Mounting Position of Alignment Mark

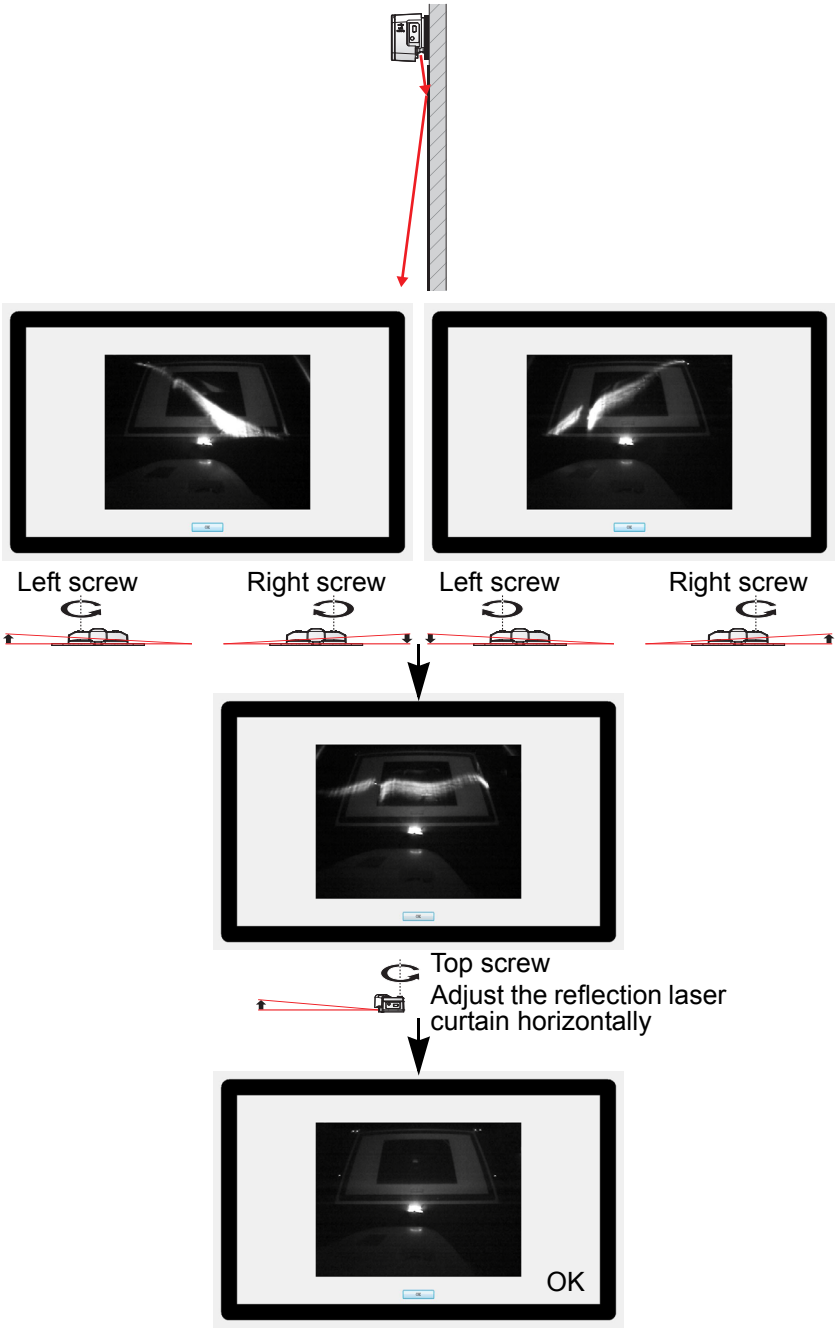
In the camera view of PointWrite, The alignment mark reflector is shown like below picture.



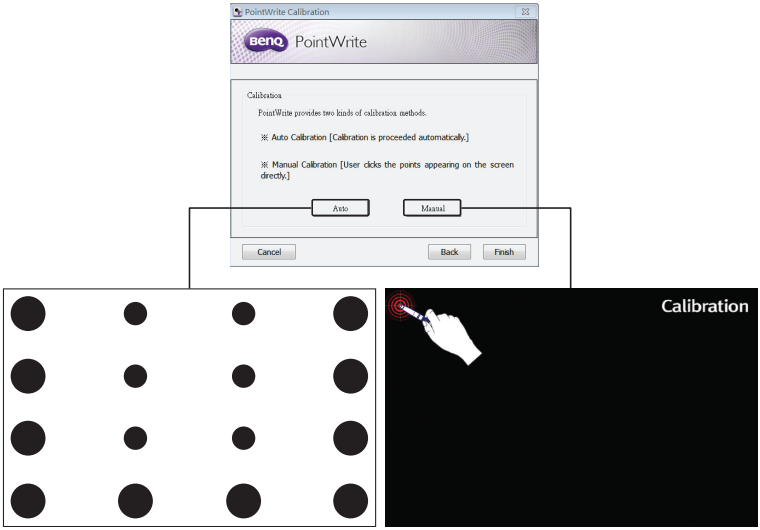
	Description	Best reflection in alignment view	High of laser curtain
Mask 1, 2	Upper side of the screen	2 points	< 5mm
Mask 3, 4	Bottom side of the scren	3 or 1 points	5 - 10mm

☞ Refer to "Alignment Instructions" for more information.

Adjust for Reflection



PointWrite Calibration



Auto calibration[1]: click on Auto and the calibration process will run automatically.

When you choose this method, white image is shown on the screen and the pattern image is displayed.

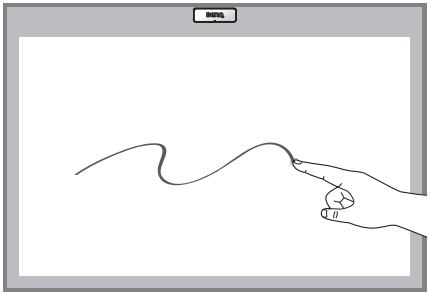
Manual calibration:

Click on Manual and the calibration window will be projected on the screen.

1. Due to excessive ambient light, auto calibration may fail or the accuracy level may drop. In this case, please execute the manual calibration.

Use the PointWrite pen to click on the center of calibration cursor immediately after it appears. Then the next cursor will display. Repeat this process until the last calibration cursor disappears.

After completing calibration, change the mode to Finger Touch Mode. Now you can use QWrite.



Specifications

Touch module	
Model Name	PT01
Operating Voltage	4.7~5.2V
Power Consumption	Max 180mA
USB Type (Power)	Mini USB B type
Power Source	Power via USB connector or 5V adaptor
Wavelength	850nm ± 10nm
Fan Angle	Max : 180° (1 laser beam)
Rolling Control Range	Max 4°
Pitch Control Range	Max 3.5°
Safety	Class 1
Dimension	178.85 x 58.09 x 40.10mm
Weight	152g (with cover)

General function	
Camera Type	PointWrite series camera module
Multi Pen Supported	Up to 4 touch points (Pen/Finger)
Response Time	0.016 sec
Refresh Rate	60 Frames/sec
Calibration	Auto / Manual16 points
Dual screen Calibration	Yes
USB Cable Distance	Max 15meter (5meter USB cable + repeater)